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STATISTICAL BULLETIN

METROPOLITAN LIFE INSURANCE COMPANY

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Suicide and War

ALONG with its unspeakable evils, war does beget some changes which have a beneficial aspect. Some of these are essentially material—technological advances hastened by the pressure of urgent necessity, surgical and medical progress at an accelerated pace in the face of terrible emergencies of the battlefield. Less obvious on the surface, though striking deep, are new reactions in minds of a certain type. It is a commonplace in mental hygiene that it is healthy for the individual to forget himself by immersion in issues transcending his own petty, personal complaints. So comes about the singular paradox that in times of war a symptom of worry, discouragement, and despair —suicide—is actually found to become more rare than in peace times. Not only various national figures, but the records of the Metropolitan Life Insurance Company as well, show the evidence.

The death rate from suicide among the Company's policyholders this year is practically the same as last year's figure, and is with one exception the lowest on record. For 1941, as a whole, the rate dropped sharply from the preceding year. This phenomenon of an exceptionally low suicide rate is attributable largely to the psychological effect of the war, although the increased standards of incomes have contributed a share. A similar low level of suicide mortality is observed in England, where the rate fell consecutively from year to year between 1939 and 1941, and where the 1941 suicide rate among males was approximately 15 percent below that of 1939. Also, there was a sharp fall in the number of suicides in the last three months of 1939, which in England marked the opening period of the war. The most recent German figures likewise show a fall of 30 percent from 1939 to 1941 in the suicide rate.

This decline in suicide during wartime has been observed in practically every country at war, and it is a rather curious fact that, in some instances at least, neutral nations neighboring on the belligerent countries shared in this same phenomenon. As for our own experience in the last war, not only was there a decline of 20 percent between 1917 and 1918, but the downward trend began in 1916 and continued through 1920. Between 1915 and 1920 the

decline was more than 50 percent. While there was some rebound from these low levels after the war, the suicide rate has never returned to its pre-World War level, not even during the economic depression in the 1930's.

The lowering of the suicide rate in war is so marked and so universal that the list of instances could be lengthened considerably. The interest, however, is not in such a list of figures, but in the evidence which they bear of one favorable psychological effect of war. A national calamity acts as a uniting force. The needs of the country become of paramount importance, and the petty interests and difficulties of the individual tend to be forgotten in the urgent desire to aid the Nation in a time of crisis. Many sensitive individuals whose lives seem to lack purpose become absorbed in rallying to the defense of their country. Men live for the present and worry less about the future, especially as, during war, new channels of activity are opened. The demands of the military forces for material cause a sudden spurt in production and money incomes. Thus economic and psychological forces work together in the same direction for the benefit of the Nation's state of mind.

Rheumatic Fever a Major Health Problem Today

RHEUMATIC fever is an important enemy of child health today. The number of cases of the disease is uncertain, but its seriousness is evidenced by its mortality. Between ages 10 and 14 years it causes more deaths than any other disease. Between ages 5 and 9 it is outranked only by the four principal communicable diseases of childhood combined, and between 15 and 24 years only by tuberculosis.

Rheumatic fever is a serious disease. For a long time its nature was little understood. It is not an acute disease, but rather a chronic condition, commonly beginning with a series of acute attacks in childhood, and extending into adult life. Furthermore, involvement of the heart is not merely an occasional complication, as is popularly supposed, but is now generally recognized as an essential part of the condition. The heart suffers damage in every attack of rheumatic fever, and the damage is generally permanent and often serious. Although the extent of this damage, under favorable conditions, may not be great, severe and fatal cases occur with sufficient frequency to raise rheumatic fever to its leading position as a cause of disability and death. In fact, although the onset of the disease is usually during childhood, most of the deaths occur in adult life.

Fortunately, the trend of mortality from rheumatic fever has been falling steadily. Clear-cut statistical proof of this is difficult, but the fact is evident from the trend of heart disease in childhood and early adult life. The sharply downward course of mortality from chronic heart disease between ages 5 and 24 reflects

the decline in the mortality from rheumatic fever. Among white Industrial policyholders of the Metropolitan Life Insurance Company, the death rate at these ages has fallen two thirds in the past 30 years—from 27.4 per 100,000 in 1911 to 8.9 in 1941. This trend is also confirmed by the decline in deaths recorded as due to "acute rheumatic fever," the mortality from which has fallen at approximately the same rate during this period—from 7.2 to 1.7 per 100,000.

Despite this decline, rheumatic fever has become relatively more important because other diseases have declined even faster. In the past decade rheumatic fever has been responsible for one out of every eight deaths from disease among children and young adults; three decades ago it accounted for about one in every 11 deaths.

The recorded mortality from rheumatic fever shows rather wide variation from State to State, with some well-defined geographical characteristics. This is brought out in the map on page 4, which gives the mortality rates from rheumatic fever among white persons, ages 5 to 24 years, in each State during the two years 1939 to 1940. The highest rates are reported in the three Middle Atlantic States and the States bordering them on the south, and in four States in the Rocky Mountain region. Moderately high rates are found in southern New England and in the area east of the Mississippi and north of the Ohio River. The mortality from rheumatic fever is consistently low in all the South Atlantic and Gulf States and in California. The rates in the Western States between the Rocky Mountains and the Mississippi are generally below average, with some States showing rates as favorable as those in the low Gulf area.

There is no simple explanation of these geographical differences. To some degree they may reflect regional variations in the severity of the disease; they are not due merely to differences in diagnostic facilities and personnel, though it is true that certain large areas with low rates do not possess adequate medical resources. These geographical variations in the disease have been in evidence for many years, and physicians who have practiced at different times in areas with high and low incidence of rheumatic fever assert that the extremely acute and full-blown cases in childhood found in the former are relatively infrequent in the latter.

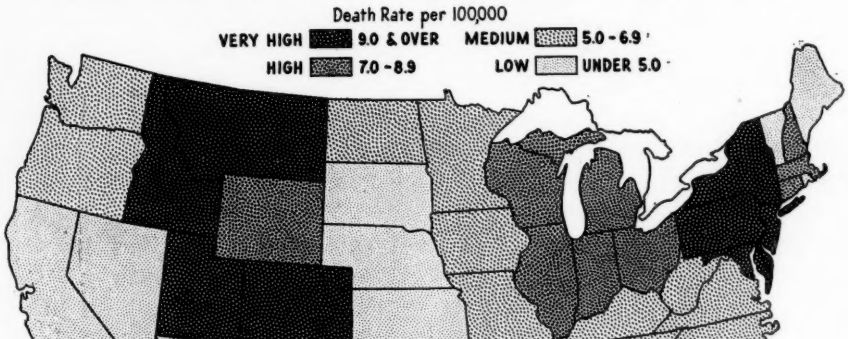
While it is generally accepted that climatic factors play a part in rheumatic fever, these have not been identified with certainty. The combination of cold and damp appears to favor the disease, but neither of these conditions alone seems to be controlling. For example, low rates are recorded both in some Western States with low average temperatures, and also in the relatively humid areas of the Coastal Regions and the South. Generally, in this country the season of most frequent attacks of rheumatic fever is the spring—from March to June—

rather than the colder months of winter.

Climatic factors alone do not explain the variations in the disease. It is clearly associated with poverty, and, in addition, there appears to be a hereditary or familial element. The disease is reported less frequently in rural areas than in cities. While differences in medical facilities may in part explain this fact, it is probably due in considerable measure to the lesser opportunity for respiratory infection in the more scattered rural population than in the crowded cities. For the disease is in some degree communicable in so far as its acute phases are usually precipitated by upper respiratory disease. Certain strains of streptococci can usually be found in the throat in rheumatic fever patients during acute attacks, although the relationship between the streptococcus and rheumatic fever is not yet established. The many and varied investigations of rheumatic fever suggest the conclusion that any factor or combination of factors, whether cold, damp, overcrowding, poor home hygiene, or any other condition which favors the onset of upper respiratory infections, also favors the development of rheumatic fever in predisposed individuals.

The control of the disease requires a careful and persistent program of case finding and of care of the child with rheumatic fever. Its recognition is not always easy. Some cases

GEOGRAPHIC DISTRIBUTION OF MORTALITY FROM RHEUMATIC FEVER *
WHITE PERSONS, AGES 5 TO 24 YEARS, UNITED STATES 1939 & 1940



*Includes Chronic Rheumatic Heart Disease 14-42 Metropolitan Life Insurance Company

baffle even experienced physicians, and it is often difficult to determine whether serious heart damage has occurred. For these reasons the practicing physician must be the central point about which any program of control revolves. He requires on occasion to consult with a specialist, in the case of children, with a pediatrician experienced in the recognition of rheumatic fever and the diagnosis of cardiac involvement. In addition, the physician should have the close cooperation of parents, teachers, and school health personnel. In this way rheumatic fever in a child may be diagnosed early, when most can be done, and he may be carried through the critical years with minimal damage to his heart. He must be kept under careful observation, both at home and in school, and be periodically examined every few months or at least once a year. In the acute stages, prolonged bed rest is necessary. This care usually can best be given in a convalescent home for rheumatic children, where specialized professional attendance can insure the requisite supervision.

The advice and guidance of the consultant is important also because there is the opposite danger that too great stress on the risk of serious heart involvement may frighten child and parent and cause needless and lasting limitation on the child's activities. But even for those children whose hearts are definitely impaired, education in the way of life that is suited to their physical limitations, and competent vocational guidance, will help them to lead useful and comparatively normal lives. Many of the convalescent homes have developed well-rounded programs for this, not only while the child is confined to the institution, but also after he has returned to his own home.

The decline in rheumatic fever is in only minor degree the result of a specific attack on the disease; it reflects rather the general improvement in the health status of American children. But we already know enough about the disease to obtain better control of it than has so far been achieved. The first step in attaining this objective is to spread this knowledge. To this end the Metropolitan Life Insurance Company has just launched a national campaign along educational lines. It will attempt to reach physicians, parents, teachers, and health workers by means of literature suited to each group, through the radio, the lecture platform, and the newspaper. To the general public it will stress the essential facts regarding the disease—its seriousness, the chief measures which help protect their children from it, and the general measures which prevent or reduce the likelihood of fresh attacks in children who have the disease. It will make available to physicians a summary of the present knowledge of rheumatic fever, outlining the modern concept of the disease, the methods necessary to improve diagnosis and treatment, and the efforts being made by public health authorities to control it.

Heating Equipment as a Winter Hazard

EVERY winter a heavy toll of lives is taken by defective or improperly operated house heating equipment. The actual number of accidental deaths chargeable to heating plants is not known. We can only estimate the extent of these misfortunes from the fact that accidents of the type that may be attributed to heating plants cause about twice as many deaths during the months of November through March, as in the period of equal length from May to September. Three types of fatal accidents are here chiefly in question—namely, persons killed in a fire, fatal burns other than those sustained in a conflagration, and asphyxiation by gas. These three categories together account annually for about 7,000 deaths in American homes, concentrated mainly in the winter months.

The causes responsible for the loss of so many lives in preventable accidents are now, as they have always been, a matter of concern to the whole people. But they are of special significance at this time to the residents of the East Coast and Midwestern areas. In these regions, because of the fuel oil shortage, many persons will convert their furnaces to burn coal instead of oil. Many others who are not converting to oil are securing kerosene, gas, or electric heaters and other supplementary heating equipment against the day of the shortage. These measures are all necessary, but undoubtedly they will add to the hazards of the home this winter if precautions are not taken in time.

Perhaps the first thing to consider by those whose duty it is to look after the heating of the home is the danger of setting the house on fire. By far the majority of the deaths in burning homes annually occur in the winter months. A large proportion of these fires are traced to dirty, defective, or overheated stoves, furnaces, chimneys, flues, pipes, etc. In the interest of preventing accidents as well as of efficiency of operation of the heating plant, chimneys, flues, and furnaces should be cleaned annually. Hundreds of lives would be saved if home owners would have experienced men inspect the heating system before it is put in operation. These inspections should not be entrusted to the neighborhood handyman, nor be made by the householder himself. Above all, unless the householder knows a great deal more than most of us do about repairing heating equipment, and unless he has the proper tools, he should not attempt to change over the heating plant. This is a job for an experienced heating engineer, a reliable contractor, or service man. These men know whether or not a conversion should be undertaken.

Many persons who have been using oil for years and will shift back to coal this winter, will have forgotten some of the precautions they used to take in operating the coal furnace. It may be well to remind them that a fire may be started if

hot ashes are placed in wooden or other combustible containers or are mixed with rubbish. This winter the temptation to use wood or other unsuitable receptacles may be increased if the collection of ashes is made less frequent because of the shortage of men and vehicles.

It is disheartening to find that in spite of all that has been said over the years about the grave dangers of speeding up a fire in the grate or stove by pouring on kerosene, this practice still continues to take a large number of lives annually. The dangers of this foolhardy procedure are so well known and so obvious, it would seem unnecessary to repeat the admonition against the practice. But there seems to be no other way of getting the idea across than by continually harping upon it.

More open fireplaces will be used this winter. Unless screened, they are a cause of serious burns by setting on fire clothing, especially the flowing robes of women, brushing past the fire; or flying sparks may ignite rugs or furniture when no one is present to watch the fire. Fireplace screens should fit tightly and be enclosed on top as well as on the front and sides. Small movable gas, electric, or oil heaters, if left where they may be brushed against or fallen into, particularly by small children, may cause serious burns; or they may be tripped over and cause a bad fall, with or without the added injury of severe burns. If knocked over, such movable heaters may be the cause of a serious house fire. Incidentally, they should never be carried about while lighted.

Gas, or oil heaters without flues, in poorly ventilated rooms, if used for any length of time, may result in death from carbon monoxide gas poisoning. Persons using gas heaters should be reminded that detachable tubing may wear through or come loose and permit the escape of gas into the room. These heaters should be connected to fixed pipes. Asphyxiation may also occur when coal stove or furnace pipes become disconnected or rusted through, or when drafts are so set that partially burned gases escape into the house. All these dangers of gas poisoning may be increased this year because, in the interest of saving fuel, many people who ordinarily would leave a few windows open even in the dead of winter will sleep with the windows closed.

One fixed principle, kept in mind through the cold months, may save your life or the lives of others: It is better to be uncomfortably cold for a short time than to take chances with makeshift heating arrangements.

Some Social Consequences of Contrasting Ages of Parents

IN THE United States at the present time, the average age of fathers at the birth of their children is just 32 years, while for mothers it is 4½ years less, or 27½ years. The difference, which is fairly sizable, can

easily be accounted for; first, the average age of men at marriage is about three years greater than for women, and second, the reproductive life of men extends for many years beyond that of women. Aside from the interest which these facts have in themselves, they have an important significance in relation to the problem of orphanhood and the provision for dependents left by deceased parents. As a consequence of the differential in the ages of the parents a child is more likely to lose its father, usually the chief breadwinner in the family, than its mother.

In this connection several interesting features arise from an examination of records of birth classified according to ages of parents, as seen in the table below, which relates to white children born in the United States in 1940. For example, more than one tenth of the births were to mothers under age 20. One quarter of the mothers were less than 23 years of age, and one half of them were under 26. Only one tenth of the children were born to women over 35. It is seen then, that the burden of providing for our population growth is concentrated within only a few years of the lives of our mothers. Thus, the women in the three years of age from 23 to 25 years bore one fourth of the babies of 1940; one half of them were born to mothers in the eight years of age from 23 to 30.

An expression of the higher average age of fathers than of mothers is found in the observation that only one tenth of the fathers were under 23 at the birth of their child, the age under which we found one fourth of the mothers. Likewise, only one fourth of the babies of 1940 had fathers under 26, while one half of them had mothers under that age. Although only about one tenth of the fathers were over 40 years of age, the Bureau of the Census reports about 2,500 fathers at ages 65 and over in 1940. It may be estimated that about 2,300 of them are white.

In addition to the percent distribution of births according to the age of the parents, there is also a particular interest in the comparison of the *rate* at which births arise among men and women of various ages, that is, the *reproductivity* in relation to age. The variation with age of the reproductivity of women has often been described (see, for example,

CONTRASTING AGE OF PARENTS, WHITE POPULATION, UNITED STATES, 1940

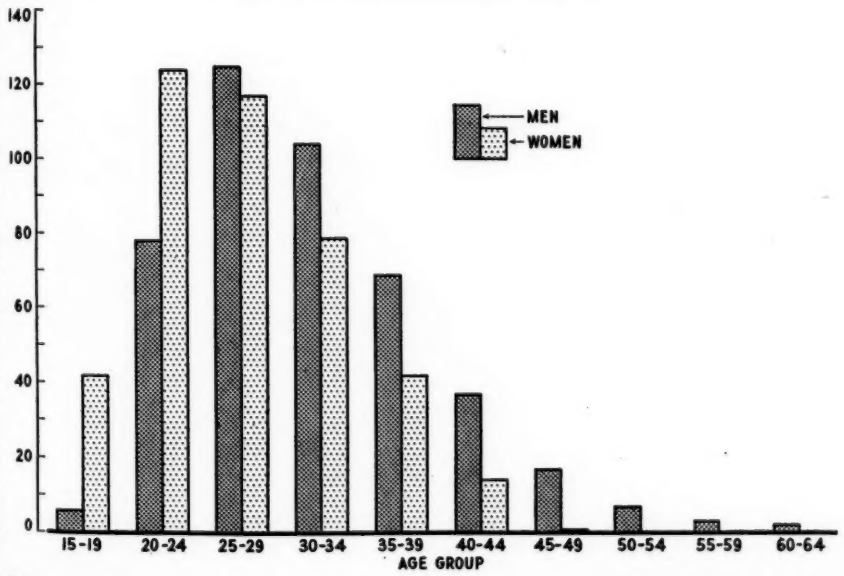
	AGE OF PARENT BELOW WHICH SPECIFIED PERCENTAGE OF BIRTHS OCCUR				
	10%	25%	50%	75%	90%
Mother's age in years.....	19.5	23.0	26.0	31.0	35.5
Father's age in years.....	22.7	26.0	29.8	35.4	41.3

STATISTICAL BULLETIN, February 1942), but the corresponding variation for men has received little notice. The chart below permits a ready comparison of reproductivity for the two sexes. The essential features in this comparison are the much more rapid rise in reproductivity for females than for males at the younger ages, the earlier peak, by five years, for females, and the very gradual attenuation with advancing age in the rates of reproductivity for men as against the rather abrupt decline and termination in the rates for women.

The situation just described may be viewed in another manner. At ages 15 to 19, reproductivity among men is only one seventh that of women, and at ages 20 to 24, it is only two thirds as great. For the later ages, this situation is reversed, the differential increasing rapidly with advance in age. Whereas reproductivity in the important ages from 25 to 29 years is only 7 percent greater for men, 10 years later the rate for males is 1 2/3 times that for females, and 20 years later the ratio mounts almost to 15. Even in the age group 55 to 59 years males were reproducing at the rate of three per 1,000.

The differentials in ages of fathers and mothers, and the longer reproductive life of men, give rise to important social problems regarding child dependency. According to present health conditions, about 94

CHILDREN BORN PER 1,000 MEN*AND PER 1,000 WOMEN*OF SPECIFIED AGES
WHITE POPULATION, UNITED STATES, 1940



*Of all marital states

15-42

Metropolitan Life Insurance Company

percent of the children born today will live to be 18 years old, the age at which their high school education is ordinarily completed and self-support is possible. However, the chances for orphanhood by loss of the father before that time are by no means negligible. Although the chances of orphanhood before age 18 for children born to fathers of age 25 are only 1 in 16, they are 1 in 8 where the father is 35. Practically one quarter of the babies born to fathers of 45 will become orphaned before 18, and one half of those born to fathers of 55.

Altogether, about one ninth, or almost 240,000 of the white babies born in 1940, would lose their father before becoming age 18 in normal times and according to present-day health standards. One half of these children were born to fathers under 35 years of age. Thus even in peace times the problem of orphanhood is important at the younger ages of parenthood, as well as at the older ages where the chances of the loss of the father are quite high. It is one of the greatest misfortunes of war that these problems are seriously aggravated.

The economic and social losses to the individual and to the community by orphanhood of dependent children are many. The guidance and companionship which the child loses by the early death of its father or mother are serious enough. But even more serious is the handicap imposed upon the child who is forced to accept a lower standard of living and to forego educational advantages because of the economic loss entailed by orphanhood. This, of course, is a situation which can be provided against, in large measure, by the father who exercises foresight and diligence in budgeting his savings. Such measures are important for fathers of all ages, but particularly so for those in midlife and later.

Recent Publications of the Statistical Bureau

THE following studies by the Statistical Bureau of the Metropolitan Life Insurance Company have been published recently, and reprints of them will be sent upon request.

1. The Control of Disease and Death in Infancy and Childhood. *The Record*, American Institute of Actuaries, June 1941.
2. Tuberculosis in the Next Decade—A Prediction. *Diseases of the Chest*, December 1941.
3. The Mortality from Tuberculosis Among the Race Stocks of the Southwest. *American Review of Tuberculosis*, January 1942.
4. Heart Disease and Public Health. *American Heart Journal*, January 1942.
5. The Inheritance of Longevity. Proceedings of the Association of Life Insurance Medical Directors, New York, 1941.
6. A Note on the Inheritance of Cardiovascular Disease—Results of Life Insurance Investigations. Journal of the Mt. Sinai Hospital, January-February 1942.
7. Current Versus Generation Life Tables. *Human Biology*, December 1941.
8. *Rheumatic Fever*. Metropolitan Life Insurance Company, 1941. (For limited distribution to physicians only).
9. Longevity in Retrospect and in Prospect. Reprinted from *Problems of Ageing*, edited by E. V. Cowdry, 1942.

Comparative Data on the Causes of Death Among Industrial Policyholders

The following table shows the mortality among Industrial policyholders for August 1942 and August 1941, together with the death rates for the first eight months of 1942, 1941, and 1940.

DEATH RATES* PER 100,000 POLICYHOLDERS FROM SELECTED CAUSES. WEEKLY PREMIUM-PAYING INDUSTRIAL BUSINESS—METROPOLITAN LIFE INSURANCE COMPANY

CAUSES OF DEATH	ANNUAL RATE PER 100,000 POLICYHOLDERS*				
	August 1942	August 1941	Year to Date: End of August		
			1942	1941	1940
ALL CAUSES—TOTAL	693.5	697.6	748.3	772.5	782.1
Typhoid fever	0.5	0.4	0.3	0.5	0.6
Measles	.2	.3	.6	1.1	.4
Scarlet fever	.2	–	.4	.5	.6
Whooping cough	.8	1.1	.9	1.3	1.2
Diphtheria	.3	.6	.5	.6	.8
Influenza	1.4	1.9	4.7	10.1	9.3
Pneumonia (all forms)	18.1	18.0	31.1	35.3	40.3
Tuberculosis (all forms)	39.5	43.5	42.8	44.3	45.5
Tuberculosis of respiratory system	36.3	39.4	38.5	40.4	41.1
Syphilis	10.2	9.6	10.9	11.5	11.6
Cancer (all forms)	104.1	102.7	104.8	103.9	101.5
Diabetes mellitus	23.1	23.8	28.5	28.6	29.6
Cerebral hemorrhage	55.0	55.0	61.0	62.1	62.1
Diseases of the coronary arteries and angina pectoris	50.5	49.7	57.6	55.0	52.5
Other chronic heart diseases†	134.5	132.1	158.8	161.1	162.5
Diarrhea and enteritis	5.9	10.2	3.9	3.9	4.1
Appendicitis	6.9	7.8	5.9	7.7	9.1
Chronic nephritis	45.3	43.8	50.8	53.1	57.6
Puerperal state—total	3.8	5.2	4.4	4.7	4.8
Suicides	6.2	5.1	7.4	7.4	8.2
Homicides	3.2	3.7	3.7	3.6	3.6
Accidents—total	57.5	61.3	52.0	50.5	46.0
Home accidents	8.9	9.6	11.7	11.3	11.6
Motor vehicle accidents	15.4	21.5	17.6	19.8	16.3
War deaths	3.1	–	4.1	.1	.2
All other causes of death	123.4	122.0	113.2	125.6	130.0

*The rates for 1942 are subject to slight correction, since they are based on provisional estimates of lives exposed to risk.

†International List (1940) titles 92, 93 (c), (d), (e), and 95.

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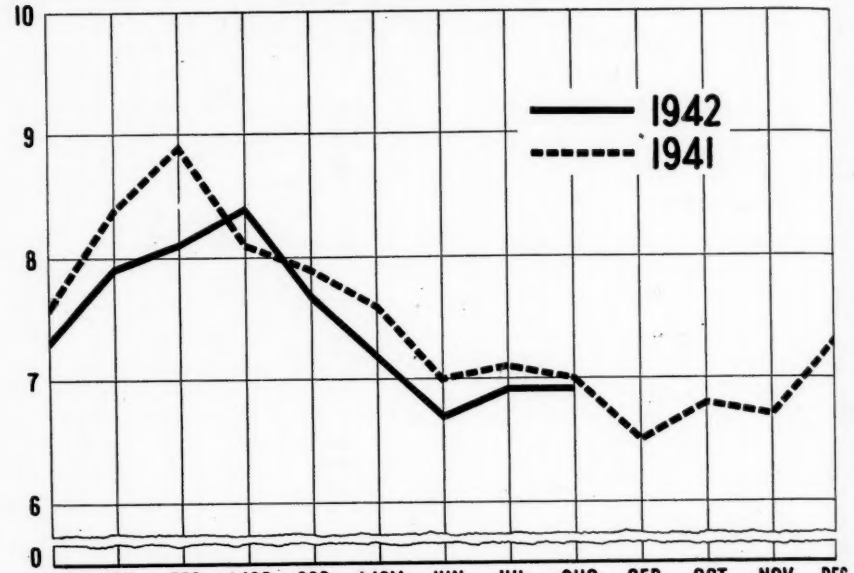
MORTALITY FROM ALL CAUSES

METROPOLITAN LIFE INSURANCE COMPANY
INDUSTRIAL DEPARTMENT, WEEKLY PREMIUM-PAYING BUSINESS

DEATH RATES PER 1,000 ANNUAL BASIS (*1942 figures are provisional*)



(DEC.)	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.
1941	8.3	8.8	8.1	7.9	7.6	7.0	7.1	7.0	6.5	6.8	6.7	7.3
1942	7.9	8.1	8.4	7.7	7.2	6.7	6.9	6.9				

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